

## REMARKS

By this amendment, Applicants have added claims 6-20 to define further aspects of the present invention. Claims 6 and 7 (and claims 18 and 19) are supported by the description at, e.g., page 4, lines 7-9 of Applicants' specification. Claims 8 and 9 (and claims 16 and 17) are supported by, e.g., the disclosure at page 3, lines 16-17 of Applicants' specification. Claims 10-20 are supported by, e.g., the disclosure at page 4, lines 20-24 of Applicants' specification.

Claims 1-5 stand rejected in numbered section 3 of the Office Action under 35 U.S.C 103(a) as being unpatentable over U.S. Patent No. 6,239,232 to Camberlin et al in view of U.S. Patent No. 5,703,178 to Gasmeca. Claims 1-5 also stand rejected in numbered section 5 of the Office Action under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,548,608 to Camberlin et al. in view of Gasmeca. Claims 1-5 also stand rejected in numbered section 10 of the Office Action on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-19 of the Camberlin et al. '608 in view of Gasmeca. Applicants traverse these rejections and request reconsideration thereof.

It is noted that the Camberlin et al. '608 patent issued on an application that is a division of the application on which the Camberlin et al. '232 patent issued. Accordingly, the disclosures of the Camberlin et al. '232 and the Camberlin et al. '608 patents are substantively similar. For the following reasons, the presently claimed invention is not disclosed in and would not have been obvious from the disclosure of either the Camberlin et al. '232 or the Camberlin et al. '608 patents and is not obvious over the claims in the Camberlin '608 patent.

The rejected claims relate to a composition that, e.g., is suitable for use as a coating for a high temperature oil pipeline. The composition includes at least one

thermoplastic polymer selected from the group formed by ether polyphenylenes and polysulphones, at least one epoxy resin modified by at least by one aromatic polyamine, and at least one filler in the form of particles having anisometric morphology and with a mean dimension in the range 1 to 250  $\mu\text{m}$ .

The Camberlin et al. '232 and '608 patents disclose a polymer composition including at least one thermoplastic polymer selected from the group formed by polyetherimides an polysulphone and at least one epoxy resin modified by at least one aromatic polyamine. It is disclosed that additives selected from the group formed by antioxidants, pigments, adhesion promoters, heat stabilizers and organic, mineral or metallic fillers can also be added. Such a polymer composition is also claimed in the Camberlin et al. '608 patent. However, neither of these patents discloses or claims a composition having a filler having an anisometric morphology and a mean dimension in the range 1 to 250  $\mu\text{m}$ .

While the Examiner cites the patent to Gasmena et al. for its disclosure regarding fillers for a heat ablative coating composition, Gasmena et al. does not disclose that the filler should be in the form of particles having an anisometric morphology and a mean dimension in the range of 1 to 250  $\mu\text{m}$ . Rather, this patent does not differentiate between anisometric fillers and isometric fillers. See, column 8, lines 53-62 of Gasmena et al.

Applicants have found that not only does a the presence of a filler in the composition allow better stability to temperature (compare Examples 2-4 with Example 1 in Applicants' specification), but the anisometric character of the filler is also important to maintain the excellent stability to seawater (compare Examples 2-4 with Example 5 in Applicants' specification). Indeed, if the filler has a isometric

morphology, the stability to seawater is degraded in comparison to a composition without filler (compare Examples 5 and 1 in Applicants' specification).

Specifically, as noted at page 21, lines 1-25 of applicants' specification, applying a high temperature coating requires high rigidity under service conditions. The unexpectedly advantageous results achieved by the presently claimed invention are demonstrated by Examples 2-4 in applicants' specification and would not be expected based on the teachings of Camberlin et al '232 or '608 and Gasmena.

By comparison with reference Example 1, Examples 2 to 4 demonstrate that introducing an anisometric filler into the polymer composition considerably improves the rigidity of the coating over the whole temperature range (100% or more gain in modulus between 25°C and 180°C), and also allows application of the coating at higher temperatures to be envisaged, between 180°C and 220°C (200% or more gain in modulus at 200°C), which is not possible for the reference composition.

Further, consideration of the stability to seawater appears to be of vital importance for external coating of a pipeline in a marine medium. By comparison with reference Example 1, Examples 2, 3 and 4 of the present invention clearly show that when the compositions comprise a substance with an anisometric morphology, the water takeup of the coating is considerably reduced compared with the reference composition of Example 1 (-10% for Example 2; -20% for Example 3; -14% for Example 4). In the present invention, it has been discovered that this reduction in water takeup conditions the anticorrosion performance of the coating over time. Thus, a composition comprising a filler with a substantially isometric morphology has an increased water takeup compared with that of the reference composition of Example 1 (+800%). In the present invention, it has been discovered that a large

water takeup is associated with ageing of the coating of the composition, indicated by blistering and cracking.

Overall, these different experiments show that only the compositions of Examples 2 to 4 of the present invention provide a satisfactory response in terms of adhesion, thermomechanical behaviour, water takeup and ageing with a view to applying high temperature coatings to pipelines in a marine medium.

Accordingly, it is submitted the proposed combination of Camberlin et al. '232 or '608 and Gasmeca does not establish a *prima facie* obviousness and, even if a *prima facie* case of obviousness is established, the unexpectedly advantageous results demonstrated in the examples in Applicants' specification rebut any such *prima facie* case. Therefore, claims 1-5 are patentable over Camberlin et al. '232 or '608 in view of Gasmeca.

Claims 1-5 stand rejected in numbered section 4 of the Office Action as being unpatentable over U.S. Patent No. 6,349,747 to Camberlin et al. in view of Gasmeca. Claims 1-5 also stand rejected in numbered section 6 of the Office Action under 35 U.S.C. 103(a) being obvious over U.S. Patent No. 6,612,343 to Camberlin et al. in view of Gasmeca. Claims 1-5 also stand rejected in numbered section 9 of the Office Action on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-18 of Camberlin et al. '747 in view of Gasmeca and in numbered 11 of the Office Action over claims 1-23 of Camberlin et al. '343 in view of Gasmeca. Applicants traverse these rejections and request reconsideration thereof.

The Camberlin et al. '343 patent issued on a continuation of the application which issued as the Camberlin '747 patent. Accordingly, the Camberlin '343 patent and the Camberlin '747 have substantively similar disclosures. These patents

disclose compositions containing at least one thermoplastic polymer and an epoxy resin modified by at least one aromatic polyamine to coat surfaces, especially pipes through which oil is transported. It is also disclosed that additives selected from the group formed by antioxidants, pigments, adhesion promoters, heat stabilizers and organic, mineral or metallic fillers can also be added. The Camberlin et al. '747 patent discloses a method of transporting hot oil through a pipe coated with a polymer composition, while the Camberlin et al. '343 patent discloses a substrate coated with such a polymer composition, a pipe for transporting oil coated with such a polymer composition and method for transporting oil through a pipe coated with such a polymer composition.

Like the Camberlin '232 and '608 patents, the Camberlin et al. '343 and '747 patents also do not disclose that the composition should include at least one filler in the form of particles having an anisometric morphology and a mean dimension in the range of 1 to 250  $\mu\text{m}$ .

Such is also not disclosed by the Gasmene patent for the reasons noted above.

Accordingly, it is submitted the proposed combination Camberlin '343 or '747 with Gasmene would not have established a *prima facie* case of obviousness. Moreover, even if such a *prima facie* case is established, the *prima facie* case is overcome by the evidence of unexpectedly advantageous results noted above.

Therefore, reconsideration and withdrawal of these rejections are requested.

Claims 1-5 stand rejected in numbered section 7 of the Office Action under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 7,049,349 to Sauvant-Moynot et al., the Examiner also referring to the Gasmene patent in the explanation of the rejection. Claims 1-5 also stand rejected in numbered section 12 of the Office Action

on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-19 of Sauvant-Moynot et al. in view of Gasmena. Applicants traverse these rejections and request reconsideration.

Without admitting that the Sauvant-Moynot et al. patent is prior art to the presently claimed invention, Applicants submit that the presently claimed invention is patentable over the disclosure and claims of this patent.

The Sauvant-Moynot et al. patent discloses a thermosetting composition comprising at least one epoxy resin modified by at least aromatic polyamine and at least one pore-forming agent, or the degradation product or products of the pore-forming agent. This patent also discloses that it is possible to add additives usually selected from the group formed by antioxidants, pigments, adhesion promoters, heat stabilizers, radiation stabilizers and more particular ultraviolet radiation stabilizers, flame retardants, mould release agents, foaming nucleation agents, dispersing agents, lubricants, colorants, plasticizers, flame retardants, bridging agents, surfactants, strengthening agents, organic, mineral or organometallic reinforcing agents, mineral or organic reinforcing fibers, such as glass, carbon or boron fibers, that the alveolar materials of the invention can also contain organic fillers or mineral fillers such as talc, silica or titanium dioxide, and that, within the context of the invention, it is also possible to add an agent that can control the viscosity during processing of the foam to the thermosetting composition. The viscosity control agent can be selected, for example, from thermoplastic polymers such as polyethersulfones, polyamines, polyimides and polyarylsulfones or from inorganic thickening fillers, for example silica aerogels.

This patent does not disclose that the composition should include at least one filler in the form of particles having an anisometric morphology and with a mean

dimension in the range of 1 to 250  $\mu\text{m}$ . Such a filler also would not have been obvious in view of Gasmeca for the reasons noted above. Moreover, the presently claimed invention provides unexpectedly advantageous results not achieved or expected by Sauvant-Moynot et al. or Gasmeca. Accordingly, the presently claimed invention is patentable over Sauvant-Moynot et al. and Gasmeca.

Newly added claims 6-20 are patentable for at least the reasons noted above.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are requested.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 612.44548X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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